

US EPA ARCHIVE DOCUMENT

**2010 GRO Internship Final Report**  
**Detection of Watershed Improvement: Geo-Spatial Evaluation of Existing  
Implementation Projects**  
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I had the pleasure to experience my Greater Research Opportunities Internship at EPA Region 4 in Atlanta, GA, under the guidance of Craig Hesterlee. The mission of EPA Region 4 Water Protection Division is to maintain, enhance, protect, and restore the quality and quantity of all water resources for the furtherance of healthy, sustainable ecosystems, and the human environment. A vital component of the Water Protection Division, Mr. Hesterlee is the South Carolina Watershed Coordinator. To support the mission of EPA, Office of Water, and Region 4, he created the project titled "Detection of Watershed Improvement: Geo-Spatial Evaluation of Existing Implementation Projects." The objectives of this project were to understand the Clean Water Act and regulations, to gain insight into the challenges of implementing statutes and regulations at a Federal and State level, and to be able to identify on-the-ground success stories where best management practices are contributing to watershed improvement. In order to gain a full understanding of the project, I participated in a number of watershed trainings, attended meetings, and gained hands-on experience with water quality test equipment while working in the field.

My first training experience was at the Effective Education in Developing Watershed Training hosted by the University of Georgia in Athens, GA. It was at this training that I received an understanding of the importance of making stream assessments and what to investigate in the process. I became acquainted with water quality monitoring equipment while participating in various field trips in Georgia and South Carolina. The first location that we investigated was Burnt Fork Creek, located in Decatur, GA. This site was investigated on three different occasions in order to accurately assess the stream's quality. During our second visit, I was able to exercise my communication skills and convey my understanding of my project to a representative of a local watershed group. I was also able to apply my communication skills during various meetings and monitoring trips with the South Carolina Department of Health and Environmental Control (DHEC) and South Carolina Department of Natural Resources. I was also exposed to some prolific efforts initiated by Clemson University in conjunction with local engineers in Aiken County, SC. Their efforts included the installation of monitoring stations, detention ponds, curb cuts, and permeable pavement in downtown Aiken as a Stormwater Best Management Practice.

My creative thinking, communication, teamwork, planning, and organization skills were put to the test when I was tasked to initiate third-party monitoring in Aiken, SC. I was privileged to contact, Dr. Harmon, a professor at the University of South Carolina, Aiken, and present to her the work I performed during my internship. As a result, she plans to incorporate water quality monitoring in her class curriculum. South Carolina DHEC, as well as the Graniteville Community Coalition, has also decided to join our third-party monitoring and community outreach project.

While I was able to exercise skills I had already developed, I faced the challenge of acquiring new skills. Though it required patience, I was trained and acquired the ability to properly use Google Earth Pro and ArcReader GIS, which played a vital part in my internship process. Not only was I exposed to new computer programs, but I also had the new experiences of kayaking, fishing, and electrofishing during my internship in EPA Region 4.

This internship has opened my understanding of the relevance of teaching others about water quality. On separate occasions, I had the opportunity to introduce the Water Protection Division Enforcement Staff, other EPA Region 4 interns, and children at a Water Quality Day Camp to water monitoring equipment and the importance of making stream assessments.

From my experiences with Mr. Hesterlee and EPA Region 4 Staff, I have realized that I am most interested in the outreach aspect of environmental protection. If we continue to involve the community and teach younger generations about the necessity environmental health and its effects on human health, I believe EPA's staff will see an improvement in not only water quality, but the environment as well as human health.

The Staff at EPA Region 4 openly welcomed me into the office and because of this I thoroughly enjoyed my internship. As a result of this internship, I am interested in attending graduate school for public health with a concentration in environmental health. The advice I would give GRO Interns next year is to be open-minded. A critical portion of this internship is to know how to work independently, as well as in a team, and being willing to ask for help and direction when needed.